



Complete Summary

TITLE

Venous thromboembolism (VTE) diagnosis and treatment: percentage of patients diagnosed with VTE who meet the criteria for low-molecular-weight heparin (LMWH) and for whom LMWH is used.

SOURCE(S)

Institute for Clinical Systems Improvement (ICSI). Venous thromboembolism diagnosis and treatment. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2009 Feb. 79 p. [220 references]

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to assess the percentage of patients diagnosed with venous thromboembolism (VTE) who meet the criteria for low-molecular-weight heparin (LMWH) and for whom LMWH is used.

RATIONALE

The priority aim addressed by this measure is to improve accurate diagnosis and treatment of venous thromboembolism (VTE).

PRIMARY CLINICAL COMPONENT

Venous thromboembolism (VTE); low-molecular-weight heparin (LMWH)

DENOMINATOR DESCRIPTION

Number of patients diagnosed with lower extremity venous thromboembolism (VTE) who meet the criteria for low-molecular-weight heparin (LMWH) (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

Number of patients with a diagnosis of venous thromboembolism (VTE) who are treated with low-molecular-weight heparin (LMWH) (see the related "Numerator Inclusions/Exclusions" field in the Complete Summary)

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Unspecified

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Hospitals
Physician Group Practices/Clinics

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Group Clinical Practices

TARGET POPULATION AGE

Age greater than or equal to 18 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Unspecified

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

Complications or comorbidities of venous thromboembolism (VTE) include massive pulmonary embolism, contraindications to anticoagulation, known history of heparin-induced thrombocytopenia, extensive iliofemoral thrombosis/phlegmasia, pregnancy, familial bleeding disorders, and severe renal dysfunction.

EVIDENCE FOR BURDEN OF ILLNESS

Institute for Clinical Systems Improvement (ICSI). Venous thromboembolism diagnosis and treatment. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2009 Feb. 79 p. [220 references]

UTILIZATION

Unspecified

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Patients diagnosed with venous thromboembolism (VTE) who meet the criteria for low-molecular-weight heparin (LMWH)

Identify patients diagnosed with VTE using the specified diagnosis codes (see the "Denominator Inclusions/Exclusions" field). Some medical groups will be able to identify the population of patients through patient computer records of International Classification of Diseases, Ninth Revision (ICD-9) codes. If this is not possible, a list of patients may be generated from the laboratory log for compression ultrasounds with a diagnosis of VTE.

The medical record of each patient is reviewed to determine if the patient meets any of the exclusion criteria (see the "Denominator Inclusions/Exclusions" field). If none of the exclusions are met, the chart is further reviewed for administration of LMWH.

During review, additional information on the number of days of treatment, and whether treatment was continued until the international normalized ratio (INR) was above 2.0 for two consecutive days, is collected. In addition, some medical groups may want to track the percent of patients treated with LMWH who received treatment in an outpatient setting.

The suggested time frame for data collection is a calendar month.

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

Number of patients diagnosed with lower extremity venous thromboembolism (VTE)* who meet the criteria for low-molecular-weight heparin (LMWH)

*Patients diagnosed with lower extremity VTE as identified by the following International Classification of Diseases, Ninth Revision (ICD-9) codes: 451.11, 451.19, 451.2, 453.8.

Exclusions

Patients are excluded for any of the following conditions:

- Any VTE other than lower extremity
- Suspected or confirmed pulmonary embolus
- Contraindications to anticoagulation
- Familial bleeding or clotting disorders
- History of heparin-induced thrombocytopenia
- Pregnancy
- Phlegmasia/extensive iliofemoral disease
- Renal dysfunction requiring dialysis

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Clinical Condition

DENOMINATOR TIME WINDOW

Time window brackets index event

NUMERATOR INCLUSIONS/EXCLUSIONS**Inclusions**

Number of patients with a diagnosis of venous thromboembolism (VTE) who are treated with low-molecular-weight heparin (LMWH)*

*Patients treated with LMWH (listed with GCN code 7542). Include only patients who meet the criteria for the denominator.

Exclusions

Unspecified

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Episode of care

DATA SOURCE

Administrative data
Medical record

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure**SCORING**

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

Internal time comparison

Evaluation of Measure Properties**EXTENT OF MEASURE TESTING**

Unspecified

Identifying Information**ORIGINAL TITLE**

Percentage of patients diagnosed with venous thromboembolism (VTE) who meet the criteria for low-molecular-weight heparin (LMWH) and for whom low-molecular-weight heparin (LMWH) is used.

MEASURE COLLECTION

[Venous Thromboembolism Diagnosis and Treatment Measures](#)

DEVELOPER

Institute for Clinical Systems Improvement

FUNDING SOURCE(S)

The following Minnesota health plans provide direct financial support: Blue Cross and Blue Shield of Minnesota, HealthPartners, Medica, Metropolitan Health Plan, PreferredOne and UCare Minnesota. In-kind support is provided by the Institute for Clinical Systems Improvement's (ICSI) members.

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

Work Group Members: Bruce Burnett, MD (Work Group Leader) (Park Nicollet Health Services) (Internal Medicine); Mary Michener, MD (Winona Clinic) (Family Medicine); Denise Dupras, MD (Mayo Clinic) (Internal Medicine); Thomas Gabert, MD, MPH (Marshfield Clinic) (Internal Medicine); Seema Maddali, MD, MPH (Fairview Health Services) (Internal Medicine); Cindy Felty, NP (Mayo Clinic) (Nursing and Health Education); Peter Marshall, PharmD (HealthPartners Health Plan) (Pharmacy); Keith Harmon, MD (Park Nicollet Health Services) (Pulmonology); Mark Melin, MD (Park Nicollet Health Services) (Vascular Surgery); Penny Fredrickson (Institute for Clinical Systems Improvement) (Facilitator); Myounghee Hanson (Institute for Clinical Systems Improvement) (Facilitator)

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

ICSI has adopted a policy of transparency, disclosing potential conflict and competing interests of all individuals who participate in the development, revision and approval of ICSI documents (guidelines, order sets and protocols). This applies to all work groups (guidelines, order sets and protocols) and committees (Committee on Evidence-Based Practice, Cardiovascular Steering Committee, Women's Health Steering Committee, Preventive & Health Maintenance Steering Committee and Respiratory Steering Committee).

Participants must disclose any potential conflict and competing interests they or their dependents (spouse, dependent children, or others claimed as dependents) may have with any organization with commercial, proprietary, or political interests relevant to the topics covered by ICSI documents. Such disclosures will be shared with all individuals who prepare, review and approve ICSI documents.

No work group members have potential conflicts of interest to disclose.

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2003 Apr

REVISION DATE

2009 Feb

MEASURE STATUS

This is the current release of the measure.

This measure updates a previous version: Institute for Clinical Systems Improvement (ICSI). Venous thromboembolism. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2007 Jun. 91 p.

SOURCE(S)

Institute for Clinical Systems Improvement (ICSI). Venous thromboembolism diagnosis and treatment. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2009 Feb. 79 p. [220 references]

MEASURE AVAILABILITY

The individual measure, "Percentage of Patients with Venous Thromboembolism (VTE) Who Meet the Criteria for Low-Molecular-Weight Heparin (LMWH) and for Whom LMWH is Used," is published in "Health Care Guideline: Venous Thromboembolism Diagnosis and Treatment." This document is available from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](#).

For more information, contact ICSI at, 8009 34th Avenue South, Suite 1200, Bloomington, MN 55425; phone: 952-814-7060; fax: 952-858-9675; Web site: www.icsi.org; e-mail: icsi.info@icsi.org.

NQMC STATUS

This NQMC summary was completed by ECRI on February 9, 2004. This NQMC summary was updated by ECRI Institute on July 27, 2004, July 20, 2005, May 1, 2006, October 8, 2007, and again on June 30, 2009.

COPYRIGHT STATEMENT

This NQMC summary (abstracted Institute for Clinical Systems Improvement [ICSI] Measure) is based on the original measure, which is subject to the measure developer's copyright restrictions.

The abstracted ICSI Measures contained in this Web site may be downloaded by any individual or organization. If the abstracted ICSI Measures are downloaded by an individual, the individual may not distribute copies to third parties.

If the abstracted ICSI Measures are downloaded by an organization, copies may be distributed to the organization's employees but may not be distributed outside of the organization without the prior written consent of the Institute for Clinical Systems Improvement, Inc.

All other copyright rights in the abstracted ICSI Measures are reserved by the Institute for Clinical Systems Improvement, Inc. The Institute for Clinical Systems Improvement, Inc. assumes no liability for any adaptations or revisions or modifications made to the abstracts of the ICSI Measures.

Disclaimer

NQMC DISCLAIMER

The National Quality Measures Clearinghouse™ (NQMC) does not develop, produce, approve, or endorse the measures represented on this site.

All measures summarized by NQMC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public and private organizations, other government agencies, health care organizations or plans, individuals, and similar entities.

Measures represented on the NQMC Web site are submitted by measure developers, and are screened solely to determine that they meet the NQMC Inclusion Criteria which may be found at <http://www.qualitymeasures.ahrq.gov/about/inclusion.aspx>.

NQMC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or its reliability and/or validity of the quality measures and related materials represented on this site. The inclusion or hosting of measures in NQMC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding measure content are directed to contact the measure developer.

[Copyright/Permission Requests](#)

Date Modified: 10/5/2009

